

Attorney Docket No.: 0180155

**REMARKS**

By the present amendment and response, claim 1 has been amended to overcome the Examiner's rejections. Claims 1-29 are pending in the present application. Reconsideration and allowance of pending claims 1-29 in view of the following amendments and remarks is requested.

**A. Rejection of Claims under 35 USC §103(a)**

The Examiner has rejected claims 1-29 under 35 USC §103(a) as being obvious with respect to U.S. Patent Number 6,492,275 B2 to Riley, et al. ("Riley") in view of U.S. Patent Number 6,268,253 B1 to Yu ("Yu"). For the reasons discussed below, Applicants respectfully submit that the present invention, as defined by amended independent claim 1, is patentably distinguishable over Riley in view of Yu. However, Applicants reserve the right to provide declarations and/or documents under 37 CFR §1.131 to "swear behind" the effective filing dates of Riley and Yu.

The present invention relates to semiconductor fabrication. More particularly, the present invention relates to trimming spacers that are formed along sidewalls of a semiconductor gate structure. The present invention "uses a plasma dry etch process that advantageously controls the ratio of lateral-to-vertical etch rates in spacer etch trimming." See present application, page 1, line 31 to page 2, line 2.

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As explained in the present application, as device dimensions shrink, minimizing contact resistance becomes a critical issue. The present application discloses at page 4, lines 25-32, in one embodiment:

"The poly spacers 502A, 502B [second set of spacers] allow additional N-channel or P-channel implant areas 504A, 504B [plurality of implant areas] to be formed away from the gate structure 102. The source and drain implants 504A, 504B in Figure 5 may be formed to achieve a desired device performance.

Figure 6 shows the poly spacers 502A, 502B of Figure 5 completely etched by a dry plasma etcher of Figure 13. The reason the poly spacers 502A, 502B are removed is to allow more exposed S/D area when silicidation/salicidation is performed, which provides a lower contact resistance." (Emphasis added).

Various advantages of the invention, some of which were discussed above, result from the invention as disclosed and claimed. However, to better define the invention and its differences and advantages, applicants have amended independent claim 1 to recite, in part:

"dry etching the second set of spacers with a plasma, wherein the second layer prevents the etching of the second set of spacers from substantially affecting the first set of spacers, thereby reducing a contact resistance and allowing a plurality of implant areas to be formed away from the gate structure." (Emphasis added).

In contrast to the present invention, Riley implements a wet etch technique as opposed to a dry plasma etch technique. See, for example, Riley, column 7, line 48. Moreover, the Examiner correctly states that Riley does not even teach the removal of the spacers.

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Further, Riley does not implement a second layer that prevents the etching of the second set of spacers from substantially affecting the first set of spacers, thereby reducing a contact resistance and allowing a plurality of implant areas to be formed away from the gate structure. Therefore, Riley does not disclose, teach, or suggest the elements of amended claim 1.

Additionally, Yu does not cure the deficiencies of Riley. Referring to Yu at column 5, line 39 to column 6, line 46, Yu simply teaches forming removable spacer 212 on the sidewalls of gate structure 208, and etching removable spacer 208. Yu does not disclose, teach, or suggest utilizing a second layer that prevents the etching of a second set of spacers from substantially affecting a first set of spacers, thereby reducing a contact resistance and allowing a plurality of implant areas to be formed away from the gate structure. Therefore, Riley and Yu do not teach, disclose, or even suggest the present invention as defined by independent claim 1, nor do Riley and Yu achieve some of the advantages of the present invention discussed above.

For the foregoing reasons, Applicants respectfully submit that the present invention as defined by independent claim 1 is not taught, disclosed, or suggested by Riley or Yu. Thus, independent claim 1 is patentably distinguishable over Riley in view of Yu. As such, claims 2-29 depending from amended independent claim 1 are, *a fortiori*, also patentably distinguishable over Riley and Yu for at least the reasons presented above and also for additional limitations contained in each dependent claim.

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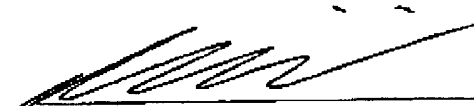
**B. Conclusion**

Based on the foregoing reasons, the present invention, as defined by amended independent claim 1, and claims depending therefrom, is patentably distinguishable over the art cited by the Examiner. Thus, claims 1-29 pending in the present application are patentably distinguishable over the art cited by the Examiner. As such, and for all the foregoing reasons, an early Notice of Allowance of claims 1-29 pending in the present application is respectfully requested.

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Respectfully Submitted,  
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